

RIGID SUPPORT MEMBER
FOR PACKS, BAGS AND OTHER ARTICLES

5 Related Application

This application is a continuation-in-part application of U.S. Patent Application Serial No. 10/610,058 filed on June 30, 2003 and incorporated herein by reference.

10 Field of the Invention

This invention relates to a rigid support member for packs, bags and other articles adapted to be suspended from the shoulders of a wearer.

15 Background of the Invention

Packs, bags and articles which are suspended from the shoulders and mounted to the back of a wearer such as, for example, school back packs, hiking back packs, and golf bags have been in widespread use for many years. Although these articles have proven effective in allowing wearers to carry and support books, hiking supplies and golf clubs, they disadvantageously have placed wearers at an increased risk of shoulder and back injury due to the considerable weight which is often times carried in these articles. This risk has become a particular concern for grade school children who are increasingly being forced to carry excessive numbers of books and supplies in their back packs in order to keep up with the ever escalating homework requirements. This risk is also a concern for caddies who must carry golf bags weighing more than fifty pounds for more than 7,000 yards during a four hour round of play.

25 In the past, adjustable flexible belts or harnesses adapted to be wrapped and tied around the waist of a wearer have been used in an attempt to relieve the weight of the pack, bag or other article. These belts and harnesses, however, have been ineffective as a weight transferring device and there thus remains a need for a support member which will effectively transfer the weight from the shoulders and back of the wearer to the waist, hips and lower back of the wearer.

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Summary of the Invention

5 The invention relates to a member for supporting an article about the hips or waist of a wearer of the article where the member comprises a pair of spaced-apart rigid arms adapted to cooperate with the article and engage the waist and/or hips of the wearer.

10 In one embodiment where the article is a back pack including opposed side panels and an open sleeve extending along a lower edge of each of the side panels, the arms are adapted to be slid and extended into the sleeves respectively. In another embodiment where the article is a back pack including a back panel and a sleeve associated therewith, the arms are adapted to be extended through the sleeve and secure the arms to the article. The arms may be adapted for rotation about the sleeve and the article between a disengaged position and an engaged position.

15 A sleeve integral with the arms may extend between the arms to define a generally U-shaped frame adapted to be secured to the article. The sleeve may comprise a pair of cooperating elements adapted to allow the distance between the arms to be adjusted. Each of the arms may also include an extended shoulder which cooperate together to secure the arms together. Each of the shoulders may be a hollow tube and the shoulders may telescope together.

20 In still a further embodiment, the arms may be slid over a flexible rod extending through the interior of the bag and protruding through slotted apertures defined in the front panel of the article.

25 In the embodiment where the arms are connected to a sleeve and the article is a golf bag including a spine, the member is adapted to be mounted to the golf bag in a relationship where the sleeve is disposed generally co-planarly with the spine. The arms may be adapted to be secured directly to the spine of the golf bag and the arms may be rotatable and slidable about the spine. Alternatively, the arms may be secured to a bracket or collar adapted to be either removably secured to the handle of the golf bag or permanently secured to the surface of the golf bag.

30 Other advantages and features of the present invention will be more readily apparent from the following detailed description of the preferred

embodiments of the invention, the accompanying drawings, and the appended claims.

Brief Description of the Drawings

In the drawings:

5 FIGURE 1 is a perspective view, partially broken away, of a back pack incorporating a support member of the present invention;

FIGURE 1A is an exploded, vertical cross-sectional view, partly broken away, depicting the relationship between the arms and the sleeve in the disengaged position of the support member of the present invention;

10 FIGURE 1B is an exploded, vertical cross-sectional view, partly broken away, depicting the relationship between the arms and the sleeve in the engaged position of the support member of the present invention;

FIGURE 2 is an exploded perspective view, partly broken away, of the back pack of FIGURE 1;

15 FIGURE 3 is a side elevational view of the back pack of FIGURE 1 suspended from the shoulders of a wearer with the support member in its disengaged position;

FIGURE 4A is a side elevational view of the back pack of FIGURE 1 suspended from the shoulders of the wearer with the arms of the support member engaged against the waist and hips of the wearer;

20 FIGURE 4B is a front elevational view of the back pack of FIGURE 1 suspended from the shoulders of the wearer with the arms of the support member engaged against the waist and hips of the wearer;

25 FIGURE 5A is a perspective view, partially in phantom and broken away, of a back pack incorporating another embodiment of the support member of the present invention;

FIGURE 5B is an exploded perspective view of the support member of FIGURE 5A;

30 FIGURE 6 is a side elevational view of the back pack of FIGURE 5A suspended from the shoulders of a wearer with the support member in its disengaged position;

FIGURE 7 is a side elevational view of the back pack of FIGURE 5A with the arms of the support member engaged against the waist and hips of the wearer;

5 FIGURE 8 is a perspective view, partly in phantom and broken away, of a back pack incorporating another embodiment of the support member of the present invention;

FIGURE 9 is an exploded perspective view of the back pack of FIGURE 8;

10 FIGURE 10 is a side perspective view of a golf bag incorporating a support member of the present invention;

FIGURE 11 is an exploded perspective view of the support member of FIGURE 10;

15 FIGURE 12 is a side elevational view of the golf bag of FIGURE 10 suspended from the back and shoulders of a wearer with the support member in its disengaged position;

FIGURE 13 is a side elevational view of the golf bag of FIGURE 10 with the arms of the support member engaged against the waist and hips of the wearer;

20 FIGURE 14 is a perspective view, partly in phantom, of a golf bag incorporating an alternate embodiment of the support member of the present invention;

FIGURE 15 is a perspective view, partly in phantom, of yet another embodiment of the support member of the present invention adapted to be secured directly to the spine of a golf bag;

25 FIGURE 16 is a perspective view, partly broken away, of still a further embodiment of the support member of the present invention adapted to be secured directly to the straps of the handle of a golf bag;

FIGURE 17 is an exploded perspective view, partly broken away, of the support member embodiment of FIGURE 16;

30 FIGURE 18 is a perspective view, partially broken away and exploded, of still a further embodiment of the support member of the present

invention;

FIGURE 19 is a perspective view of a further embodiment of the support member of the present invention secured to a golf bag configured to be carried in a generally vertical orientation;

5 FIGURE 20 is a perspective exploded view of the golf bag of FIGURE 19 with the outer liner and straps removed therefrom;

FIGURE 21 is a side elevational view of the golf bag of FIGURE 19 suspended from the shoulders of a wearer with the support member in its disengaged position;

10 FIGURE 22 is a side elevational view of the golf bag of FIGURE 19 with the arms of the support member engaged against the hips and waist of the wearer;

FIGURE 23 is an exploded perspective view of yet a further embodiment of the support member of the present invention adapted to be removably secured to the handle of a golf bag;

15 FIGURE 24 is a perspective view of the support member of FIGURE 23 removably secured to the handle of a golf bag;

FIGURE 25 is an exploded perspective view of still another embodiment of the support member of the present invention adapted for mounting to a golf bag;

20 FIGURES 26(a) and (b) depict alternate embodiments of the mounting plate of the support member of FIGURE 25;

FIGURE 27 is an exploded perspective view of yet an additional embodiment of the support member of the present invention incorporating a collar for removably securing the same to the handle of a golf bag;

25 FIGURE 28 is a broken perspective view, partly in phantom, of a back pack incorporating yet another embodiment of the support member of the present invention; and

FIGURE 29 is an exploded perspective view, partly in phantom of the back pack shown in FIGURE 28.

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Detailed Description of the Preferred Embodiments

The invention disclosed herein is, of course, susceptible of embodiment in many different forms. Shown in the drawings and described herein below in detail are preferred embodiments of the invention. It is to be understood, however, that the present disclosure is an exemplification of the principles of the invention and does not limit the invention to the illustrated embodiments.

For ease of description, the support member and the various articles adapted to incorporate the support member of the present invention will be described in a normal (upright) operating position and terms such as upper, lower, horizontal, etc., will be used with reference to this position. It will be understood, however, that the support member and various bags and articles of the present invention may be manufactured, stored, transported, used, and sold in an orientation other than the positions shown and described herein.

FIGURES 1, 1A, 1B and 2 depict a support member 100 which, in the embodiment shown, is adapted for use with any type of shoulder or back mounted bag, pack or article such as, for example, the back pack 102 shown in FIGURE 1 which includes front and back panels 104 and 106 respectively, opposed side panels 108 and 110 respectively and a bottom panel 112 which has a sheet of cardboard or the like floor material 114 seated thereon and adapted to provide support for the contents of the pack 102.

In the embodiment as shown in FIGURES 1 and 2, the support member 100 initially comprises a generally rectangular back pack frame 116 which is made of any suitable rigid material such as aluminum, steel, plastic, or the like and is adapted to be seated in the interior of the pack 102 against the bottom sheet 114. Pack frame 116 is defined by opposed front and back flat vertical ribs 118 and 120 respectively and opposed flat side vertical ribs 122 and 124 disposed in adjacent or abutting relationship with the interior surfaces of the back and front panels 106 and 104 and the side panels 108 and 110 of the pack 102 respectively.

An elongate hollow tube, rod, or sleeve 126, which is made of the same type of material as frame 116, is secured to and extends longitudinally along the outer vertical panel of the front rib 118 thereof. Alternatively, the sleeve 126

could be secured directly to the back panel 106, or any of the other panels or bottom of the pack, by any one of several known methods. Sleeve 126 includes and defines a plurality of elongate slots 128 extending between the outer and inner surfaces thereof. In the embodiment shown, the sleeve 126 includes two spaced-apart sets of three slots each, the slots 128 in each of the sets being aligned in spaced-apart and co-linear relationship and extending partially around the circumference of the sleeve 126. In accordance with the present invention, the sleeve 126 is adapted to protrude through an appropriately sized aperture or opening 130 formed in the back panel 106 of the pack 102. A flap 132 or the like is stitched or otherwise suitably secured to the back panel 106 of the pack 102 and is adapted to cover the sleeve 126.

The support member 100 still further comprises a generally "U"-shaped frame 134 which, in the embodiment shown, is made of aluminum, steel, plastic, composite or the like suitable rigid tubular material. Frame 134 comprises a pair of generally "L" shaped elongate shafts or tubes defining spaced-apart arms 136 and 138. Each of the arms 136 and 138 includes an elongate extended shoulder 140 and a unitary, elongate distal hip and/or waist engaging segment or portion 142 extending generally normally outwardly from the shoulder 140. The hip and/or waist engaging portion 142 incorporates an inwardly bent, curved or arcuate central segment 144. The free end 146 of the extended shoulder 140 of each of the arms incorporates a depressable spring-activated pin, button or the like element 148 adapted to allow the arms 136 and 138 to be removably and rotatably secured inside the ends of the sleeve 126 as described in more detail below.

Preferably, the arms 136 and 138 are mirror images of each other and are disposed generally co-planarly to each other in both the disengaged and engaged positions of the support member 100. Moreover, each of the arms 136 and 138 bend not only inwardly in the direction of the distal ends thereof away from the shoulders thereof but also downwardly in the same direction so as to allow the same to rest and engage against the top of a wearer's hips in their engaged position as described in more detail below.

Alternatively, and although not shown, it is understood that the invention encompasses the embodiment where the frame 134 is adapted to cooperate and pivot about the bottom panel 112.

5 In accordance with the present invention, each of the arms 136 and 138 have an outside diameter which is slightly less than the inner diameter of the sleeve 126 to allow the free end 146 of each of the extended shoulders 140 respectively to be advanced into and through the open ends 150 and 152 respectively of the sleeve 126. The arms 136 and 138 are advanced into the hollow sleeve 126 until the respective pins 148 are locked into one of the selected slots 128
10 thereby locking and securing the arms 136 and 138 to the sleeve 126. As shown in FIGURES 1A and 1B, the slots 128 in combination with the pins 148 not only secure the arms 136 and 138 to the rod 126 but also are sized to allow the arms 136 and 138 to rotate about the sleeve 126 between the position of FIGURE 1A and the position in FIGURE 1B where the arms have been rotated approximately ninety
15 degrees in the clock-wise direction.

The support member 100 still further comprises a pair of elongate hollow generally cylindrical comfort pads or cushions 154 and 156 adapted to be slid over the respective hip/waist engaging portions 142 of the arms 136 and 138 respectively. The pads or cushions 154 and 156 may be made of any suitable soft,
20 pliable and/or deformable material. Alternatively, a suitable layer of cushioning material may be applied directly to the surface of the arms by any know process. In the engaged position of FIGURE 1, the arms 136 and 138 are disposed generally horizontally co-planarly with the bottom panel 112 of the pack 102 and serve as a stand which allows the pack 102 to be seated in an upright position on a support
25 surface.

As shown in FIGURES 3, 4A and 4B, the back pack 102 is adapted to be mounted to the back of a wearer and suspended from the shoulders of the wearer by means of shoulder straps 158 and 160 associated with the pack 102.

30 The support member 100 is adapted to be used or oriented in a first disengaged position (FIGURE 3) where the arms 136 and 138 are disposed in a generally, up and down vertical position generally vertically co-planarly with the

back panel 104 of the pack 102 against the back and buttocks of the wearer. In a second position as shown in FIGURES 4A and 4B, the arms 136 and 138 have been rotated about ninety degrees in the clock-wise direction about the sleeve 126 and the pack 102 (i.e., from the position of FIGURE 1A to the position of FIGURE 1B) to allow the arms 136 and 138 to engage against the waist of the wearer and rest or sit against the top of the hips of the wearer. In this position, the arms are disposed generally horizontally co-planarly with the bottom panel 112 of the pack 102.

In accordance with the present invention, the arms 136 and 138 and, more particularly, the arcuate segments 144 of the hip/waist engaging portions 142 thereof, exert an engagement or compressive action or force against the hips and/or waist which causes a portion of the weight of the pack 102 and the contents thereof to be transferred away from the shoulders and back of the wearer successively through the pack 102, the pack frame 116, the sleeve 126, the arms 136 and 138, and to the hips and/or waist of the wearer thus advantageously reducing the shoulder and upper back stresses which often times lead to shoulder and back injuries. According to the invention, a majority of the weight of the back pack 102 and its contents is thus advantageously reconcentrated and redistributed through the support member 100 from the shoulders and upper back of the wearer to the hips and/or waist and lower back of the wearer.

The width of the frame 134 of the member 100 can be adjusted to accommodate differently sized waist and/or hips by adjusting the width between the arms 136 and 138 which, of course, is accomplished by sliding one or both of the extended shoulders 140 of the arms 136 and 138 into locking relationship into whichever of the selected slots 128 on the sleeve 126 provide the wearer with the desired width and engaging fit.

FIGURES 5A and 5B depict another embodiment of a support member 200 including a generally U-shaped frame 234 comprising two interconnected and telescoping generally "L" shaped tubes or shafts defining spaced-apart generally co-planar arms 236 and 238 which are preferably made of the same type of material as the arms of the support member 100 shown in FIGURE 1. Particularly, each of the arms 236 and 238 of the support member 200 includes a

hip/waist engaging support portion 242 and a proximal extended and elongate shoulder 240 which extends unitarily generally normally inwardly from the proximal end of the hip/waist engaging portion 242. The hip/waist engaging portion 242 of each of the arms 236 and 238 incorporates an inwardly bent curved or arcuate central segment 244 between the proximal and distal ends thereof. The arms 236 and 238 are also mirror images of each other and are disposed in a spaced-apart relationship generally co-planarly to each other in both the disengaged and engaged positions of the member 200. The arms 236 and 238 additionally arc or curve downwardly in the direction of the distal ends thereof. In accordance with the present invention, the extended shoulder 240 of the arm 236 includes and defines a plurality of spaced-apart, co-linear longitudinally extending apertures 243 adjacent the free distal open end 245 thereof while the extended shoulder 240 of the arm 238 includes a depressable pin, button or the like element 248 similar to the pin 148 described above with respect to the support member 100.

As shown in FIGURES 5A and 5B, the distal open end 245 of the shoulder 240 of arm 236 preferably has an inner diameter which is slightly greater than the outer diameter of the distal free end 247 of the shoulder 240 of arm 238 to allow the free end 247 of the shoulder 240 of the arm 238 to be telescoped or fitted into the free end 245 of the shoulder 240 of the arm 236. Shoulder 240 of arm 238 is advanced into the shoulder 240 of arm 236 and the pin 248 is locked into the appropriate selected aperture 243 depending, of course, upon the desired and preferred width of the frame 234.

The back panel 206 of the pack 202 incorporates a strip of elastic or the like material 207 extending along a lower longitudinal portion thereof between the side panels 208 and 210 thereof to allow the arms 236 and 238 to be moved laterally towards or away from the pack 202 as described in more detail below. In the embodiment of FIGURES 5A and 5B, the respective arms and, more particularly, the shoulders 240 thereof are adapted to extend through a hollow sleeve or jacket 209 which is preferably made of the same type of material as the pack 202 and has been stitched, sewn, or otherwise suitably secured to a lower longitudinal portion of the front panel 204 of the pack 202. The sleeve 209

incorporates a flap 211 (FIGURE 6) which allows access to the respective interconnected shoulders 240 of the member 200 for adjusting the width of the arms 236 and 238 thereof.

5 Although not shown in any of the drawings, it is understood that, in an alternate embodiment, the sleeve 209 may extend not only across a lower portion of the front panel 204 of the pack 202 but also continuously along a lower longitudinal portion of the side panels 208 and 210 of the pack 202. In this alternate embodiment, both the shoulders and the portion of the arms 236 and 238 abutting the side panels 208 and 210 respectively would be covered by the sleeve 10 209. Alternatively, the sleeve 209 could be stitched, sewn, or otherwise suitably secured to a portion of the bottom panel 112 and the arms could be adapted to pivot about the bottom panel 112 into the engaged position of FIGURE 7.

A pair of elongate, hollow cylindrical pads or cushions 254 and 256, similar in structure to those described earlier in connection with the support member 100, are adapted to be slid over and along the respective hip/waist 15 engaging portions 242 of the arms 236 and 238. Moreover, in this embodiment, a pair of hooks or brackets 262 and 264 are stitched or otherwise suitably secured to a lower portion of the side panels 208 and 210 of the pack 202 adjacent the front panel 204 thereof for engaging the arms 236 and 238 as described in more detail 20 below.

In use, support member 200 is rotatable about the sleeve 209 and the pack 202 between the disengaged position of FIGURE 6 where the arms thereof are positioned in a generally up and down vertical co-planar relationship spaced from the wearer into the position of FIGURE 7 where the arms have been rotated 25 clock-wise approximately ninety degrees into abutting and engaging position against the waist of the wearer and rested or seated against the top of the hips of the wearer. In the position of FIGURE 7, the brackets 262 and 264 encircle the arms 236 and 238 and limit any further clock-wise movement of the arms 236 and 238 relative to the pack 202 beyond the initial ninety degrees. The brackets 236 and 30 238 additionally provide support for the pack 202 and, as shown in FIGURE 7, eliminate the sagging of the bottom of the pack 202. In the engaged positions of

FIGURES 5A and 7, a portion of the respective hip/waist engaging portions 242 of the arm 236 and 238 extend and abut against a lower longitudinal portion of the side panels 208 and 210 respectively of the pack 202 between the front and back panels 204 and 206 respectively.

5 As described above with respect to the support member 100, the support member 200 also allows a transfer of the weight of the contents of the pack 202 away from the shoulders and the upper back of the wearer to the waist, hips and lower back of the wearer through the respective shoulders 240 and then through the respective hip/waist engaging portions 242 of the arms 236 and 238 of the member
10 200.

Although not shown in any of the FIGURES, it is understood that the support member 200 could likewise be suspended and rotatable about a sleeve or jacket, similar to the sleeve 209, which is stitched, sewn or otherwise suitably secured to a longitudinal lower portion of the back panel 206 of the pack 202.

15 FIGURES 8 and 9 depict yet a further support member embodiment 300 which includes a pair of elongate spaced-apart and generally co-planar arms 336 and 338 adapted to be slid generally longitudinally inwardly into respective elongate longitudinally extending hollow sleeves or jackets 370 and 372 which are made of a suitable elastic or the like material, and have been stitched, sewn or
20 otherwise suitably secured to a lower longitudinal portion of the side panels 308 and 310 respectively of the pack 302. Sleeves 370 and 372 extend longitudinally generally between the front and back panels 304 and 306 of the pack 302 adjacent the bottom or floor panel 314 thereof. Each of the arms 336 and 338 includes a proximal elongate sleeve portion 340 and a distal unitary hip/waist engaging
25 portion 342.

The arms 336 and 338 are slid or extended generally horizontally into the sleeves 370 and 372 respectively until the distal end of the respective sleeve portions 340 thereof are abutted against the closed rear end (not shown) of each of the sleeves 370 and 372. The hip/waist engaging portion 342 of each of the arms
30 336 and 338 protrudes outwardly from the sleeves 370 and 372 and generally normally outwardly from a lower portion of the back panel 306 of the pack 302.

Each of the arms 336 and 338 is adapted to be surrounded by a pair of elongate cushions 354 and 356. Cushion 354 is adapted to cover the hip/waist engaging portion 340 of the arms 336 and 338 while cushion 356 is adapted to surround the sleeve portion 340 of each of the arms 336 and 338 and allows the arms 336 and 338 to be removably secured in the respective sleeves 370 and 372.

A pin 380 extends through the cushions 356 and into the sleeve portion 340 of each of the arms 336 and 338 for securing the respective cushions 356 to the arms and to inwardly secure the arms inside the sleeves 370 and 372.

Although not shown in any of the FIGURES, it is understood that the generally horizontally co-planarly aligned and spaced arms 336 and 338 of the support member 300 are adapted to engage against the waist and rest against the top of hips of a wearer of the pack 302 in a manner similar to that described in connection with the earlier described support member embodiments. As such, the arms 336 and 338 allow the transfer of the weight of the pack 302 from the shoulders and upper back of the wearer downwardly towards the bottom of the pack 302, then through the arms 336 and 338 respectively and then to the waist and hips of the wearer. The elasticity or stretchability of the material comprising the sleeves 370 and 372 allows the arms 336 and 338 to be flexed outwardly away from the side panels of the pack 302 to accommodate the waist or hip sizes of a variety of wearers. An elastic band 380 is adapted to surround the arms 336 and 338 in the area of the sleeve portions thereof so as to cause the arms to exert a force against the waist and hips as desired.

It is understood that FIGURES 1-9 depict only three support member embodiments suitable for use with a back pack and that the invention encompasses all other suitable embodiments which fall within the scope of the invention including, but not limited to, the support member embodiment 800 of FIGURE 18 which is similar in structure to the support member 100, and thus the description thereof is incorporated herein by reference, except that it includes a unitary, non-adjustable and non-rotatable U-shaped tubular frame 834 incorporating a pair of spaced-apart generally horizontally co-planarly oriented elongate shafts defining arms 836 and 838 and a longitudinal sleeve 840 therebetween and unitary

with the proximal ends of the arms 836 and 838. Sleeve 840 is generally horizontally co-planarly oriented with the arms 836 and 838 and is adapted to mounted or otherwise secured directly to a lower longitudinal portion of the back panel 806 of the back pack 802 using any suitable means including, for example, Velcro®, snaps, sleeves, jackets or the like. In the embodiment of FIGURE 18, rivets 892 extend through the sleeve 840, the material or fabric comprising the back panel 806 of the back pack 802 and into the front rib 818 of frame 816 located in the interior of the back pack 802. In this embodiment, the arms 836 and 838 are permanently extended generally outwardly away from the pack or article intended to be supported by the hip support member. Elongate cushions 854 and 856 cover the arms 836 and 838 respectively.

Another support member embodiment 400 is shown in FIGURES 10-13 which is adapted to be integrated for use on a golf bag 402 adapted to be carried in a generally horizontal orientation.

As with the other support member embodiments, the support member 400 comprises a generally "U" shaped frame 434 including a pair of elongate shafts or tubes defining spaced-apart generally co-planarly aligned arms 436 and 438 terminating in elongate inwardly extending shoulders 440 generally co-planarly aligned with the arms. A central sleeve 426 interconnects the two generally "L" shaped arms 436 and 438 together about the shoulder 440 thereof to define the frame 434. Each of the arms 436 and 438 comprises an elongate, rigid and preferably hollow tube or rod which has been shaped and configured to follow the contour of the outer surface 403 of the golf bag 402. Elongate, hollow cylindrical cushions or pads 454 and 456, similar in structure and function to those described earlier in connection with the earlier support embodiments, are adapted to slide over and cover all or a portion of the arms 436 and 438 respectively. The open, hollow distal end 498 of the extended shoulder 440 of each of the arms 436 and 438 includes an elongate slot 443 extending around a portion of the circumference thereof.

The sleeve 426 comprises first and second hollow flat bars 474 and

476. Bar 474 is sized to fit or telescope into an open end 478 of bar 476. Each of the bars 474 and 476 has a plurality of flat circumferential outer surfaces.

Particularly, bar 474 includes a flat lower surface (not shown) and a flat top surface 480 having a plurality of apertures 482 extending therethrough and aligned in space-apart and co-linear relationship thereon. Bar 476 includes a flat lower surface (not shown) and a flat top surface 484 incorporating a depressable push button, pin or the like element 486 adapted to snap into engagement with a selected one of the apertures 482 in the bar 474 for locking the two bars 474 and 476 of the sleeve 426 together.

Elongate shafts 488 and 490 extend longitudinally outwardly from closed ends of the bars 474 and 476 respectively opposite the ends of the bars which are telescoped together. Each of the shafts 488 and 490 defines a threaded aperture 496 extending partially therethrough and adapted to receive a threaded screw 497. In accordance with the invention, the shafts 488 and 490 are adapted to receive the open distal end 498 of the shoulder 440 of each of the arms 436 and 438 respectively into a relationship wherein the slots 443 therein are aligned with the respective apertures 496 in the shafts 488 and 490. The screws 497 are then inserted through the slots 443 and into the threaded apertures 496 to lock the arms 436 and 438 to the sleeve 426. Slots 443 allow the arms 436 and 438 respectively to rotate about the shafts 488 and 490 and are sized to allow a ninety degree rotation of the arms 436 and 438 relative to the shafts and the sleeve 426.

As shown in FIGURE 10, the support member 400 is adapted to be seated against the outer surface 403 of the golf bag 402 in a relationship where the sleeve 426 is positioned in the transverse bag direction in a generally vertical co-planar relationship with the spine 405 and handle 409 of the bag 402 with the lower flat panels (not shown) of the bars 474 and 476 of the sleeve 440 abutted against the surface 403 of the bag 402. In the longitudinal bag direction, member 400 is positioned such that the sleeve 426 is positioned directly beneath the handle 409 of the bag 402 in a relationship where the shaft 490 and the distal end of bar 476 protrudes and extends through the top buckle 413 of the handle 409 and the

shaft 488 and the distal end of the bar 474 extends and protrudes through the opposed buckle 415 of the handle 409.

As shown in FIGURES 12 and 13, the support member 400 is rotatable about the spine 405 and outer surface 403 of the bag 402 between a first position (FIGURE 12) where the arms 436 and 438 extend downwardly away from the spine 405 and are seated generally against the outer surface 403 of the bag and a second position (FIGURE 13) where the arms 436 and 438 have been rotated approximately ninety degrees in the clock-wise direction into a tangent, outward position relative to the outer surface 403 of the bag 402 and the arms 436 and 438 and engage against the waist of the wearer and are rested or seated against the top of the hips of the wearer.

The use of flat bars 474 and 476 seated against the generally flat golf bag surface 403 prevents the support member 400 from rotating about the bag 402 more than the required ninety degrees when the arms 436 and 438 are rotated between the FIGURE 12 and 13 positions.

In a manner similar to that described earlier in connection with the back pack embodiments, the support member 400 advantageously transfers the weight of the bag and the clubs housed therein away from the shoulders and the upper back of the wearer to the waist, back and hips of the wearer through the spine 405 of the bag 402, the sleeve 426 of the member 400, and then through the arms 436 and 438. This weight transfer, of course, advantageously reduces the burden which is ordinarily associated with carrying a golf bag during an average eighteen hole round of golf. The support member 400 offers a particular significant advantage for caddies who are commissioned or hired to carry the bags of professional golfers at tournaments and the like where the bags can end up weighing more than fifty pounds.

FIGURE 14 shows an alternate golf bag embodiment 502 where the sleeve 526 and extended elongate shoulders 540 of the arms 536 and 538 of the support member 500 have been encapsulated or covered by a jacket or sleeve 570 which has been stitched or otherwise suitably secured over the outer surface 503 of the bag 502 in the region of the spine 505. The structure of support member 500 is

the same as the structure of support member 400 and thus the description thereof is incorporated herein by reference. In the embodiment of FIGURE 14, the arms 536 and 538 protrude through a pair of spaced-apart openings 572 and 574 defined in the jacket 570. Preferably, the jacket material surrounding the openings 572 and 574 incorporates an elastic rim 576 which allows the jacket material to stretch in response to the rotation of the arms 536 and 538 from the FIGURE 12 position into the FIGURE 13 position. A flap 578 on the jacket 570 allows access to the sleeve 526 of support member 500 for adjusting the width or distance between the arms 536 and 538.

FIGURE 15 depicts yet another support member embodiment 600 adapted to be mounted directly to the elongate shaft or center spine 605 of the golf bag 602. The arms 636 and 638 of the support member 600 are similar in structure, shape and orientation to the arms 436 and 438 of the support member 400 of FIGURES 10 and 11 and the description thereof is thus incorporated herein by reference. However, instead of incorporating telescoping shoulder portions, the arms 636 and 638 have respective hollow tubular shafts, shoulders or collars 674 and 676 extending unitarily generally normally inwardly from the distal ends of the arms 636 and 638 respectively. Each of the hollow shafts 674 and 676 includes a plurality of spaced-apart, co-linear longitudinally extending slots 678 defined therein. Each of the slots 678 defines an opening extending partially around the circumference of the shafts 674 and 676. The shafts 674 and 676 are adapted to be slid directly onto and surrounding the spine 605 during the manufacture of the bag 602.

Although not shown in FIGURE 15, it is understood that the spine 605 has a pair of depressable push buttons or pins associated therewith, similar in structure to the buttons or pins described in connection with some of the earlier support member embodiments and incorporated herein by reference, and adapted to respectively cooperate and engage with selected ones of the slots 678 in the shafts 674 and 676 for locking the arms 636 and 638 on the spine 605. As described in connection with selected ones of the earlier support member embodiments, the slots 678 allow the arms 636 and 638 to be rotated in a clock-wise direction

approximately ninety degrees about the spine 605 and the outer surface of the bag 602 between the two positions shown in FIGURES 12 and 13. Additionally, the arms 636 and 638 are slidable along the spine 605 for adjusting the distance between the arms as desired.

5 A jacket or sleeve 670 similar in structure to the jacket 570 of the support embodiment of FIGURE 14 covers the spine 605 and a portion of the arms 636 and 638. A flap 678 unitary with the jacket 670 allows access to the shafts of the arms and the spine to allow the adjustment of the width of the arms 636 and 638. Preferably, the jacket material surrounding openings 672 and 674 in the jacket
10 670 incorporates an elastic rim 676 which allows the jacket material to stretch when the arms are rotated about the spine.

 Yet a further embodiment of a support member 700 is shown in FIGURES 16 and 17 which is adapted for use on a golf bag intended to be carried in the generally horizontal orientation shown in FIGURES 12 and 13. Support
15 member 700 incorporates arms 736 and 738 similar in structure and orientation to the arms 436 and 438 of support member 400 and thus the description thereof is incorporated herein by reference. As such, each of the generally "L" shaped arms 736 and 738 includes an extended shoulder portion 740 and a unitary elongate waist/hip engaging portion 742. However, unlike the support member 400, support
20 member 700 incorporates a bracket 773 which allows the member 700 to be fitted and removably secured directly to the straps 713 and 715 of the handle 709 of a golf bag. Specifically, bracket 773 comprises a pair of flat plates 774 and 776. Plate 776 defines a pair of notches 778 and 780 adjacent the ends respectively which extend inwardly into the body of the plate 776 from one of the side vertical panels
25 782 thereof. Plate 774 also defines a pair of spaced-apart notches 784 and 786 located adjacent the ends respectively and extending inwardly from one of the side vertical panels 788 thereof. Plate 774 additionally includes an elongate hollow mounting rod, tube or sleeve 726 seated and secured to the upper panel thereof and extending generally longitudinally between the ends thereof.

30 Plates 774 and 776 of bracket 773 are adapted to be brought together laterally from opposite sides of the golf bag handle 709 into a relationship

surrounding and secured to the handle 709 wherein the respective vertical side panels 782 and 788 and of the plates 776 and 774, respectively are abutted against each other, the upper strap portion 713 of handle 709 is received and fits inside the notches 778 and 784 defined in plates 774 and 776 respectively, and the lower strap portion 715 of handle 709 is received and fits inside the notches 780 and 786 defined in plates 774 and 776 respectively.

A plurality of screws 792 extend between the side panels 782 and 783 of the plate 776 and into the side panel 788 of the plate 774 for removably securing the plates 774 and 776 and thus the sleeve 740 around the handle 709. Thereafter, the arms 736 and 738 are removably secured to the sleeve 726 in the same manner as that described earlier in connection with the FIGURE 1 support member embodiment 100 and incorporated herein by reference. Slots 728 in sleeve 726 cooperate with respective depressable pins 748 associated with arms 736 and 738 for locking the arms 736 in the sleeve 726 and to allow the rotation of arms 736 and 738 relative to the sleeve 726 for the same purposes as described above in connection with the FIGURE 1 embodiment and thus incorporated herein by reference. Tubular cushions 754 and 756 surround the waist/hip engaging portions 742 of the arms 736 and 738 respectively.

FIGURES 19-22 depict another support member embodiment 900 adapted to be integrated for use on a golf bag 902 designed to be carried in a generally vertical/up and down position instead of the generally horizontal orientation of, for example, the embodiment shown in FIGURES 12 and 13.

Referring to FIGURES 19 and 20 in particular, golf bag 902 is composed of an interior, hollow shell 903 which may be made of any suitable durable, hard material such as plastic or the like and adapted to receive and carry golf clubs. Shell 903 is adapted to be surrounded and covered by an outer protective liner 904 made of any suitable material such as, for example, a cushioned, padded synthetic or fabric material.

Bag 902 includes opposed, spaced-apart, and generally parallel front and back longitudinal panels 905 and 906 respectively and opposed, spaced-apart and parallel side longitudinal panels 907 and 908 respectively extending between

the front and back panels 905 and 906 in a generally normal relationship thereto. Each of the panels 905, 906, 907 and 908 includes a top or upper open end region 909, a mid-region 910, and a bottom or lower closed end region 911.

5 Support member 900 initially comprises an elongate bracket or plate 916 extending along the width of the front panel 905 of the bag 902 in the mid-region 910 thereof. Plate 916 may be secured to the surface of back panel 906 of shell 903 of bag 902 using rivets or the like securement means and is seated and disposed on the surface of shell 903 in an orientation generally normal to the opposed longitudinal bag edges 917 and 918 which separate the back panel 906
10 from the side panels 907 and 908.

An elongate hollow tube, rod or sleeve 926, which is of the same construction and material as sleeve 126, is secured to and extends longitudinally along the front of the plate 916. The description with respect to sleeve 126 is thus incorporated herein by reference. Particularly, sleeve 926 includes and defines a
15 plurality of elongate slots 928 extending between the outer and inner surfaces thereof. In the embodiment shown, sleeve 926 includes two spaced-apart sets of three slots each, the slots 928 in each of the sets being aligned in spaced-apart and co-linear relationship along the length of the sleeve 926 and extending partially around the circumference thereof.

20 Support member 900 still further comprises a generally "U"-shaped frame 934 which, in the embodiment shown, is made of aluminum, steel, plastic, composite or the like suitable rigid tubular material. Frame 934 is of the same construction as frame 134 and comprises a pair of generally "L" shaped elongate shafts or tubes defining spaced-apart arms 936 and 938. Each of
25 the arms 936 and 938 includes an elongate extended shoulder 940 and a unitary, elongate distal hip/waist engaging segment or portion 942 extending generally normally outwardly from the shoulder 940. The hip/waist engaging portion 942 incorporates an inwardly bent, curved or arcuate central segment 944. The free end 946 of the extended shoulder 940 of each of the arms incorporates a
30 depressable spring-activated pin, button or the like element 948 adapted to allow the arms 936 and 938 to be removably and rotatably secured inside the ends of

the sleeve 926 and within the respective slots 928 as described in more detail below.

5 Preferably, the arms 936 and 938 are mirror images of each other and are disposed generally co-planarly to each other in both the disengaged and engaged positions of the support member 900. Moreover, each of the arms 936 and 938 bend not only inwardly in the direction of the distal ends thereof away from the shoulders thereof but also downwardly in the same direction.

10 In accordance with the present invention, each of the arms 936 and 938 have an outside diameter which is slightly less than the inner diameter of the sleeve 926 to allow the free end 946 of each of the extended shoulders 940 respectively to be advanced into and through the open ends 950 and 952 respectively of the sleeve 926. Arms 936 and 938 are advanced into the hollow sleeve 926 until the respective pins 948 are locked into one of the selected slots 928 thereby locking and securing the arms 936 and 938 to the sleeve 926. In a manner similar to that shown in FIGURES 1A and 1B with respect to the support
15 embodiment 100 and thus appropriately incorporated herein by reference, the slots 928 in combination with the pins 948 not only secure the arms 936 and 938 to the rod 926 but also are sized to allow the arms 936 and 938 to rotate about the sleeve 926 between the position of FIGURE 1A and the position in FIGURE
20 1B where the arms have been rotated approximately ninety degrees in the clock-wise direction.

Support member 900 still further comprises a pair of elongate hollow generally cylindrical comfort pads or cushions 954 and 956 adapted to be slid over the respective hip/waist engaging portions 942 of the arms 936 and 938
25 respectively. The pads or cushions 954 and 956 may be made of any suitable soft, pliable and/or deformable material. Alternatively, a suitable layer of cushioning material may be applied or molded directly to the surface of the arms by any know process. A pad or cushion 957 is also adapted to cover the bracket 916 and sleeve 926 of the support member 900.

30 As shown in FIGURES 21 and 22, golf bag 902 is adapted to be mounted and suspended from the shoulders and back of a wearer by means of

shoulder straps 958 and 960 associated and secured to the golf bag 902 in a manner which allows the bag 902 to be carried in the generally vertical orientation shown therein.

5 Support member 900 is adapted to be used or oriented in a first disengaged position (FIGURE 21) where the arms 936 and 938 are disposed in a generally, up and down vertical position generally spaced from and parallel to the respective side panels 907 and 908 of bag 902 and generally adjacent and co-linearly with the opposed longitudinal panel edges 917 and 918 respectively. In the second position of FIGURE 22, the arms 936 and 938 have been rotated
10 about ninety degrees in the clock-wise direction about the sleeve 926 and back panel 906 of the bag 902 (i.e., from the sleeve position of FIGURE 1A to the sleeve position of FIGURE 1B) to allow the arms 936 and 938 to engage against the sides of the wearer's waist and rest and sit against the top of the hips of the wearer. In this position, the arms are disposed in a generally horizontal
15 orientation generally normal to the back panel 906 of the bag 902.

In accordance with the present invention, the arms 936 and 938 and, more particularly, the arcuate segments 944 of the hip/waist engaging portions 942 thereof, are adapted to exert a compression force against the waist and top of the hips which causes the weight of the bag 902 and the contents
20 thereof to be transferred away from the shoulders and upper back of the wearer successively through the bag 902, the sleeve 926, the arms 936 and 938, and to the lower back, waist and hips of the wearer thus advantageously eliminating the shoulder and upper back stresses which often times lead to shoulder and back injuries. According to the invention, a majority of the weight of the bag 902 and
25 the golf clubs adapted to be carried therein is thus advantageously reconcentrated and redistributed through the support member 900 from the shoulders and upper back of the wearer to the waist, hips and lower back of the wearer.

The width of the frame 934 of the member 900 can be adjusted to accommodate differently sized waists and hips by adjusting the width between the
30 arms 936 and 938 which, of course, is accomplished by sliding one or both of the extended shoulders 940 of the arms 936 and 938 into locking relationship into

whichever of the selected slots 928 on the sleeve 926 provide the wearer with the desired width and engaging fit.

Although FIGURES 19-22 depict the support member embodiment 900 where the arms 936 and 938 are rotatable about the back panel 906 of the bag 902, it is understood that the invention encompasses the use and incorporation of any other suitably structured support member embodiments including, for example, the support member embodiment 800 depicted in FIGURE 18 where the arms are unitary with a sleeve 840 adapted to be secured directly to the surface of shell 903 as with rivets or the like thereby securing the arms 836 and 838 in a permanent, non-rotatable extended position generally normally outwardly from the back panel 906 of the bag 902.

Yet a further embodiment of a support member 1000 according to the present invention is shown in FIGURES 23 and 24. Support member 1000 is preferably adapted for use on a golf bag intended to be carried in the horizontal orientation as shown in FIGURES 12 and 13 and thus incorporates arms 1036 and 1038 similar in structure, shape and orientation to the arms 436 and 438 of support member 400, the description of which is incorporated herein by reference. As such, each of the generally "L" shaped arms 1036 and 738 includes, among other elements, an extended shoulder portion 1040 and a unitary elongate waist/hip engaging portion 1042.

Bracket assembly 1073 initially is adapted to allow the support member 1000 to be secured to the handle of the bag and comprises a generally square-shaped flat plate 1074. Plate 1074 defines two rows of spaced-apart, parallel and aligned slots 1084 and 1086. Plate 1074 additionally includes an elongate hollow mounting rod, tube or sleeve 1026 seated and secured to the top face of plate 1074 and extending generally longitudinally between the side edges of plate 1074 along the lower edge thereof. Sleeve 1026 is otherwise similar in structure to the sleeve 26 of support member 100 depicted in FIGURES 1 and 2 and the sleeve 726 of support member 700 depicted in FIGURES 16 and 17, the descriptions of which are thus incorporated herein by reference.

Bracket assembly 1073 still further comprises a pair of straps 1075 and 1076 made of Velcro® or the like material and, more specifically, where one of the panels of each of the straps 1075 and 1076 includes the loop type material thereon and the other of the panels of each of the straps 1075 and 1076 includes the hook type material thereon. Bracket assembly 1073 still further comprises a crescent moon shaped insert or spacer 1077 made of foam or the like material.

In accordance with the present invention, bracket assembly 1073 is adapted to be removably secured to the handle 1009 by initially sliding plate 1074 through the space or aperture defined between the bag and the handle 1009 into the relationship of FIGURE 24 where the apertures 1084 and 1086 in plate 1074 are located on opposite sides of the handle 1009. Thereafter, foam insert 1077 is wedged between the plate 1074 and the lower surface of handle 1009 as shown in FIGURE 24. Subsequently, Velcro® strips 1075 and 1076 are wrapped around the handle 1009 and fed or extended through respective ones of the apertures 1084 and 1086 in plate 1074 respectively subsequently as shown in FIGURE 24 so as to removably secure the bracket 1073 to the handle 1009.

Thereafter, arms 1036 and 1038 are removably secured to the sleeve 1026 in the same manner as that described earlier in connection with the FIGURE 1 and FIGURE 16 support member embodiments and thus incorporated herein by reference. Particularly, slots 1028 in sleeve 1026 cooperate with respective depressable pins 1048 (not shown) associated with arms 1036 and 1038 for locking the arms 1036 and 1038 in the sleeve 1026 and to allow the rotation of arms 1036 and 1038 relative to the sleeve 1026 and the golf bag in the same manner as that shown in FIGURES 12 and 13 and for the same purposes as described above in connection with the FIGURE 10 embodiment and incorporated herein by reference. Tubular cushions 1054 and 1056 surround the hip/waist engaging portions 1042 of the arms 1036 and 1038 respectively.

Yet a further embodiment of a support member 1100 is shown in FIGURES 25 and 26. Support member 1100 is also adapted for use on a golf bag intended to be carried in the generally horizontal orientation as shown in FIGURES 12 and 13 and thus incorporates arms 1136 and 1138 similar in structure, shape and

orientation to the arms 436 and 438 of support member 400, the description of which is incorporated herein by reference. As such, each of the generally "L" shaped arms 1136 and 1138 includes, among other elements, an extended shoulder portion 1140 and a unitary elongate hip/waist engaging portion 1142.

5 Bracket assembly 1173 is adapted to allow the support member 1100 to be secured to the side of the golf bag and thus comprises an arcuate plate 1174 configured to conform to the generally arcuate shape of the outside of the golf bag and adapted to be secured thereto with rivets 1175 or the like. Plate 1174 is adapted to be mounted on the side of a golf bag in an orientation which will allow
10 the arms 1136 and 1138 to be seated over the bag in the same manner as described above in connection with the support member embodiment 400 and thus incorporated herein by reference. A hollow, elongate tube 1176 is secured to the surface of plate 1174 as by welding or the like in an orientation wherein tube 1176 is centrally disposed on the plate 1174 between and in a generally parallel
15 relationship to the opposed side edges 1177 and 1178 of plate 1176. In the alternate plate embodiments of FIGURES 26(a) and (b), tube 1176 is secured to the top surface of plate 1176 in alternate relationships wherein tube 1176 is disposed at an angle (i.e., tilted alternatively in the direction of either the edge 1177 or the edge 1178) relative to the central longitudinal axis 1180 of plate 1176. Tube 1176
20 includes a plurality of apertures 1182 defined in the top surface thereof and extending between the ends thereof in a spaced-apart and aligned relationship.

 Bracket assembly 1173 additionally includes an elongate, hollow mounting rod 1181 secured to (as by welding or the like) and extending generally normally outwardly from the side of the exterior surface of the sleeve 1126 of
25 support member 1100 opposite the side of sleeve 1126 having the slots 1128 defined therein. Aperture 1183 defined in surface of rod 1181 is preferably adapted to receive depressable pin assembly 1189. Rod 1181 is positioned between the two sets of slots 1128. Sleeve 1126 is otherwise similar in structure to the sleeve 26 of support member 100 and the description thereof is thus incorporated herein by
30 reference.

Arms 1136 and 1138 are removably securable to the sleeve 1126 in the same manner as that described above in connection with the FIGURE 1 support member 100 and thus the description thereof is incorporated herein by reference. Particularly, slots 1128 in sleeve 1126 cooperate with respective depressable pins (not shown) associated with arms 1136 and 1138 for locking the arms 1136 in the sleeve 1126 and to allow the rotation of arms 1136 and 1138 relative to the sleeve 1126 for the same purposes and in the same manner as described and shown in FIGURES 12 and 13 above and thus incorporated herein by reference. Tubular cushions 1154 and 1156 surround the hip/waist engaging portions 1142 of the arms 1136 and 1138 respectively.

Sleeve 1126 in turn is adapted to be removably and adjustably secured to bracket assembly 1173 by extending rod 1181 into tube 1176. Pin 1184 is adapted to cooperate with a selected one of the plurality of apertures 1182 in tube 1176. Apertures 1182, of course, allow the distance between the bag and the wearer to be adjusted.

Yet a further support member embodiment 1300 is shown in FIGURE 27. Support member 1300 is also adapted for use on a golf bag intended to be carried in the orientation shown in FIGURES 12 and 13 and thus incorporates arms 1336 and 1338 similar in structure, shape and orientation to the arms 436 and 438 of support member 400, the description of which is thus incorporated herein by reference. As such, each of the generally "L" shaped arms 1336 and 1338 includes, among other elements, an extended shoulder portion 1340 and a unitary elongate hip/waist engaging portion 1342.

Support member 1300 incorporates a collar 1373 which allows the member 1300 to be fitted and removably secured directly to the handle 1309 of a golf bag. Specifically, bracket 1373 comprises a pair of interconnectable, generally semi-circularly shaped collar plates 1374 and 1376. Plate 1374 defines a pair of elongate bores 1378 and 1380 which extend inwardly into the body thereof from the outer face thereof and in the direction of the plate 1376. Although not shown therein, it is understood that collar plate 1376 also defines a pair of spaced-apart

bores or the like defined in the body thereof and extending therein in alignment with the bores 1378 and 1380 defined in collar plate 1374.

Collar plate 1374 additionally includes an elongate hollow mounting rod, tube or sleeve 1326 extending longitudinally along the outer surface of the side of plate 1374 opposite the side thereof adapted to abut against the plate 1376. Sleeve 1326 is similar in structure to the sleeve 26 of the support member 100 shown in FIGURE 1 and thus the description thereof is incorporated herein by reference. Sleeve 1326 is adapted to be secured to collar plate 1374 by welding or the like.

Plates 1374 and 1376 of bracket 1373 are adapted to be brought together laterally from opposite sides of the golf bag handle 1309 into a relationship surrounding the handle 1309. Screws 1392 are adapted to be inserted into and through the bores 1378 and 1380 in plate 1374 and the respective bores in plate 1376 for removably securing the plates 1374 and 1376 around the handle 1309. Arms 1336 and 1338 are removably securable to the sleeve 1326 in the same manner as that described earlier in connection with the FIGURE 1 support member 100, the description of which is incorporated herein by reference. Particularly, slots 1328 in sleeve 1326 cooperate with respective depressable pins 1348 associated with arms 1336 and 1338 respectively for locking the arms 1336 and 1338 in the sleeve 1326 and to allow the rotation of arms 1336 and 1338 relative to the sleeve 1326 for the same purposes as described above in connection with the FIGURE 12 and 13 embodiments and thus incorporated herein by reference. Tubular cushions 1354 and 1356 surround the hip/waist engaging portions 1342 of the arms 1336 and 1338 respectively.

FIGURES 28 and 29 depict another embodiment of a support member 1400 adapted for use with any type of shoulder or back mounted pack such as, for example, the back pack 1402 which includes front and back panels 1404 and 1406 respectively, opposed side panels 1408 and 1410 respectively and a bottom panel 14, together defining a hollow storage interior.

Support member 1400 comprises, in part, a generally U-shaped frame comprising two interconnected, generally "L" shaped hollow flexible tubes

or shafts defining spaced-apart generally co-planar arms 1436 and 1438 which are preferably of the same structure and made of the same material as arms 36 and 38 of the support member 100 shown in FIGURE 1, the description of which is thus incorporated herein by reference. Particularly, each of the arms 1436 and 1438 of the support member 1400 includes a hip/waist engaging support portion 1442 and a proximal extended and elongate shoulder 1440 which extends unitarily generally normally inwardly from the proximal end of the hip/waist engaging portion 1442. The hip/waist portion 1442 of each of the arms 1436 and 1438 incorporates an inwardly bent curved or arcuate central segment 1444 between the proximal and distal ends thereof. The arms 1436 and 1438 are also mirror images of each other and are disposed in a spaced-apart relationship generally co-planarly to each other in both the disengaged and engaged positions of the member 1400. The arms 1436 and 1438 additionally arc or curve downwardly in the direction of the distal ends thereof.

A pair of elongate, hollow cylindrical pads or cushions 1454 and 1456, similar in structure and function to those described earlier in connection with the support member 100, the description of which is incorporated herein by reference, are adapted to be slid over the respective hip/waist engaging portions 1442 of the arms 1436 and 1438.

Support member 1400 still further comprises an elongate rod 1481 made of any suitable, flexible, resilient material such as, for example, an ABS plastic or fiberglass material which has been preferably pre-shaped during the manufacturing process in the shape of a "U". In accordance with the present invention, rod 1481 includes an arcuate base support segment 1483 and unitary arm support segments 1485 and 1487 and is adapted to be located within the interior of the back pack 1402 in a relationship wherein the base support segment 1483 thereof follows the contour of the front and side panels 1404, 1408 and 1410 respectively of the pack 1402 and is seated against or adjacent the bottom panel 1412.

Base segment 1483 is also adapted to extend through an elongate sleeve 1493 also located in the interior of the pack 1402. Sleeve 1493 extends longitudinally along the interior face of front panel 1404 and adjacent the bottom

panel 1412. The arm support segments 1485 and 1487 are adapted to extend unitarily outwardly from the ends of the base segment 1483 along the interior faces of the side panels 1408 and 1410 respectively and through respective slotted apertures 1489 and 1491 defined respectively in the back panel 1406 of the pack 1402 adjacent the bottom panel 1412 thereof. The hip/waist engaging arms 1436 and 1438 are adapted to be fitted over and surround the respective arm segments 1485 and 1487 of rod 1481 in a relationship where the arms 1436 and 1438 extend successively through the respective slotted apertures 1489 and 1491, the interior of the pack 1402 and partially through the interior of sleeve 1493. The portion of the shoulders of the arms 1436 and 1438 disposed within the interior of sleeve 1493 are adapted to be glued or otherwise suitably secured to the sleeve 1493 thus fixedly removably securing the arms 1436 and 1438 to the rod 1481.

In accordance with the present invention, rod 1481 is preferably shaped and made of a material adapted to allow the rod 1481 to flex inwardly and outwardly towards and away from the waist and/or hips of the wearer in the region of the arm supports 1485 and 1487 thereof so as to allow the arms 1436 and 1438 to exert a compressive force against the waist and/or hips of the wearer of the back pack which, in the same manner as described above with respect to the earlier support member embodiment and incorporated herein by reference, advantageously allows the transfer of the weight of the contents of the pack 1402 away from the shoulders and the upper back of the wearer to the waist, hips and lower back of the wearer through the respective shoulder 1440 and then through the respective waist/hip engaging portions 1442 of the arms 1436 and 1438 of the member 1400. The slots 1489 and 1491 in the back panel 1406 of pack 1402 allow the arms 1436 and 1438 to flex laterally inwardly in the direction of the center of the bag and outwardly in the direction of the side panels thereof to accommodate the variously sized waists and hips of different users.

It will be readily apparent from the foregoing detailed description of the invention and from the illustrations thereof that numerous variations and modifications may be effected without departing from the true spirit and scope of the novel concepts or principles of this invention. It will also be readily apparent

that the hip support member of the present invention is applicable not only with back packs and golf bags but also with a variety of other articles which are adapted to be mounted to the back or suspended from the shoulders of a wearer such as, for example, back packs used by military personnel, back mounted vacuum cleaners,
5 back mounted leaf blowers, and baby carriers.